

### **REMARKS**

Claims 1–25, 40, 60, 68, 76, 78, 80, 82, and 83 are pending in this application.

#### **Rejection of claims under 35 U.S.C. 102(b)**

Claims 1–25, 40, 60, 76, 78, 80, 82 and 83 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,387,380 to Cima et al (“Cima”). Cima appears to disclose a process for making a component from a powder material by three-dimensional printing. *See* title, abstract. To the limited extent Cima describes the composition of the powder material, Cima merely states that the powder material may be a ceramic, metal, or plastic powder or fiber. *See* column 12, lines 11–21.

Cima does not disclose any thermoplastic particulate materials, nor does Cima disclose alone or in combination an adhesive particulate materials. Cima, thus, does not disclose a powder including a thermoplastic particulate material and an adhesive particulate material, as recited in independent claims 1, 76, 78, 80, and 83. Cima also does not teach or suggest a fluid adapted to activate an adhesive in a powder including thermoplastic and adhesive particulate material, as recited in independent claims 25 and 60. Cima also does not disclose a fluid adapted to activate the adhesive properties of a thermoplastic particulate material, as recited in independent claims 40, 82, and 83.

The Examiner correctly notes that Cima discloses the use of 3D printing techniques to manufacture prototype parts using a plastic powdered material. Cima does not, however, teach an adhesive particulate material in combination with the plastic powdered material, as required by independent claims 1, 76, 78, 80, and 83. Moreover, as explained above, Cima does not teach the fluids binders recited in independent claims 25, 40, 60, 82, and 83.

Applicants submit that for at least these reasons, independent claims 1, 25, 40, 60, 76, 78, 80, 82, and 83, and claims dependent therefrom, are patentable over the cited art.

Claims 1–25, 40, 60, 68, 76, 78, 80, 82, and 83 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,902,441 to Bredt et al (“Bredt”). Bredt appears to describe three-dimensional printing materials systems. *See* abstract. Various powder components are described. *See* column 7, line 40 – column 9, line 12. Bredt appears to mention plastic powders only with reference to the prior art. *See* column 1, line 65 and column 2, line 32. Bredt does not disclose thermoplastic particulate materials, as recited in the instant claims. More particularly, Bredt does not disclose a powder including a thermoplastic particulate material and an adhesive particulate material, as recited in independent claims 1, 76, 78, and 80. Bredt also does not disclose a fluid adapted to activate an adhesive in a powder including thermoplastic and adhesive particulate material, as recited in independent claims 25 and 60. Bredt also does not appear to disclose a fluid adapted to activate the adhesive properties of a thermoplastic particulate material, as recited in independent claims 40, 82, and 83. Moreover, Bredt does not disclose a fluid including water and an amine, wherein the fluid is adapted to activate the adhesive properties of at least a sparingly soluble alkaline-reducible particulate material, as recited in independent claim 68.

The Examiner states that Bredt discloses an article made of a mixture of particles of an adhesive and a filler. As detailed above, however, Applicants respectfully submit that Bredt does not disclose a mixture of particles of an adhesive and a thermoplastic particulate material. The fillers taught by Bredt may be selected from the examples of adhesives. These include water-soluble polymers, none of which is a thermoplastic material.

Furthermore, the Examiner states that specific examples of polymers that are listed in Bredt in Column 8 are identical to the ones claimed in the instant application. Applicants respectfully request clarification: none of the water-soluble polymers listed in column 7, line 60 – column 8, line 13 are included in the lists of thermoplastic materials recited in claims 3 and 8.

Applicants submit that for at least these reasons, independent claims 1, 25, 40, 60, 68, 76, 78, 80, 82, and 83, and claims dependent therefrom, are patentable over the cited art.

Rejection of Claims - Double Patenting

Claims 76, 78, 80, and 82 are rejected under the judicially created doctrine of obviousness-type double patenting over claims 1–26 of Bredt. Bredt discloses three-dimensional printing materials systems, but does not describe the combination of thermoplastic and adhesive materials; in fact, Bredt does not even mention thermoplastic materials. In particular, Bredt does not describe providing a plurality of particles comprising a blend of a thermoplastic particulate material and an adhesive particulate material, as recited in independent claims 76 and 78, nor does Bredt describe a plurality of thermoplastic particles and an activatable adhesive, as recited in independent claim 80, nor does Bredt describe providing a plurality of thermoplastic particles, as recited in independent claim 82.

Applicants submit that, for at least these reasons, claims 76, 78, 80, and 82 are patentable over Bredt and would not have been obvious based on Bredt at the time of the filing of the instant application.

**CONCLUSION**

In light of the foregoing, Applicants respectfully submit that all claims are in condition for allowance.

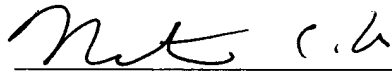
If the Examiner believes that a telephone conference with Applicants' attorney would expedite allowance of this application, the Examiner is cordially invited to call the undersigned attorney at (617) 570-1806.

Applicants believe that no fees are necessitated by the present Response. However, in the event that any fees are due, the Commissioner is hereby authorized to charge any such fees to Deposit Account No. 07-1700.

Respectfully submitted,

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